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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,897	11/21/2003	Jonathan Phillips	044463-0264	9078

22428 7590 04/26/2007

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EXAMINER	
COLLINS, CYNTHIA E	
ART UNIT	**PAPER NUMBER**
1638	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/717,897	PHILLIPS ET AL.	
	Examiner	Art Unit	
	Cynthia Collins	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2 and 4-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2 and 4-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 1, 2007 has been entered.

Claims 1, 3 and 7-20 are cancelled.

Claims 2 and 4 are currently amended.

Claims 2 and 4-6 are pending and are examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All previous objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 112

Claims 2 and 4-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record.

Applicants' arguments filed February 1, 2007 have been fully considered but they are not persuasive.

Applicants point out that claim 2 has been amended to recite an isolated nucleic acid molecule comprising a polynucleotide of SEQ ID NO: 47 or a functional variant thereof having at least 95% identity to SEQ ID NO: 47, that confer vascular-preferred polynucleotide transcription, and claim 4 has been amended to specify that the complementary or reverse complement sequences to SEQ ID NO: 47 and its variants are at least 30 nucleotides in length and confer vascular-preferred polynucleotide transcription. Applicants maintain that the sequences claimed in the present application are thus defined both by their structure, as being at least 95% identical to SEQ ID NO: 47, and by their function, as conferring vascular-preferred polynucleotide transcription. Applicants also maintain that the specification provides extensive description of polynucleotides having a sequence which is 95% identical to SEQ ID NO: 47, as well as complementary and reverse complements thereto. In this regard Applicants point in particular to paragraphs [0074] to [0079] in the published application. (reply page 4)

The rejection is maintained because the disclosure of the single polynucleotide of SEQ ID NO:47 that functions to confer vascular and xylem preferred polynucleotide transcription does not adequately describe the claimed genus of polynucleotide sequences which encompasses numerous undisclosed and uncharacterized functional variants of SEQ ID NO:47 that confer vascular-preferred polynucleotide transcription, including functional variants of SEQ ID NO:47 that have at least 95% sequence identity to SEQ ID NO:47, and including polynucleotides that are complementary to the sequences in claim 2 or that are reverse complements to the sequences in claim 2, at least 30 nucleotides in length, and confer vascular-preferred polynucleotide transcription.

Regarding paragraphs [0074] to [0079] in the published application, the Examiner maintains that while paragraphs [0074] to [0079] explain how percent sequence identity may be determined, paragraphs [0074] to [0079] do not describe the structure of any actual functional variants of SEQ ID NO:47 that confer vascular-preferred polynucleotide transcription, or any actual functional variant of SEQ ID NO:47 that has at least 95% sequence identity to SEQ ID NO:47, or any polynucleotide that is complementary to the sequences in claim 2 or that is a reverse complement to the sequences in claim 2, at least 30 nucleotides in length, and confers vascular-preferred polynucleotide transcription.

Claims 2 and 4-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated nucleic acid molecule of SEQ ID NO: 47, does not reasonably provide enablement for other isolated nucleic acid molecules. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims, for the reasons of record.

Applicants' arguments filed February 1, 2007 have been fully considered but they are not persuasive.

Applicants point out that claim 2 has been amended to recite an isolated nucleic acid molecule comprising a polynucleotide of SEQ ID NO: 47 or a functional variant thereof having at least 95% identity to SEQ ID NO: 47, that confer vascular-preferred polynucleotide transcription, and claim 4 has been amended to specify that the complementary or reverse complement sequences to SEQ ID NO: 47 and its variants are at least 30 nucleotides in length

and confer vascular-preferred polynucleotide transcription. Applicants also point out that the sequence of SEQ ID NO: 47 is provided in Table 6 and in the sequence listing in the application. Applicants additionally point out that the specification provides extensive disclosure of functional variants that are 95% identical to SEQ ID NO: 47 and confer vascular-preferred polynucleotide transcription, and methods of producing and using these variants. In this regard Applicants point in particular to Paragraphs [0124] to [0135] in the published application. (reply page 5)

The Examiner maintains that the full scope of the claimed invention is not enabled because it is unpredictable whether the claimed sequence variants would function to confer vascular-preferred polynucleotide transcription in a plant, or whether the claimed sequence variants would be capable of downregulating the expression of an operably linked gene, because a vascular-preferred promoter requires the presence of specific nucleotides and nucleotide sequence motifs in a polynucleotide in order to confer vascular-preferred polynucleotide transcription, which nucleotides and motifs may not be present in the claimed sequence variants. In the instant case Applicant has not provided sufficient guidance with respect to the identity and location of key nucleotides and regulatory regions required to confer vascular-preferred polynucleotide transcription, or to downregulate the expression of an operably linked gene, in variants of SEQ ID NO:47. Absent such guidance it would require undue experimentation for one skilled in the art to use variants of SEQ ID NO:47. The data provided for over 50 sequences in Examples 1-9 do not provide such guidance, because these sequences do not met the structural requirements of the rejected claims, and therefore fall outside of the scope of the claimed invention.

Regarding paragraphs [0124] to [0135] in the published application, the Examiner maintains that while paragraphs [0124] to [0135] provide a general definition for the term functional variant, paragraphs [0124] to [0135] do not disclose the identity of any specific functional variant that is 95% identical to SEQ ID NO: 47 and that confers vascular-preferred polynucleotide transcription or that downregulates the expression of an operably linked gene. Further, paragraphs [0124] to [0135] provide no specific guidance with respect to the identity and location of key nucleotides and regulatory regions of SEQ ID NO:47 that would be retained by functional variants of SEQ ID NO:47 that confer vascular-preferred polynucleotide transcription, or that downregulate the expression of an operably linked gene.

Claim Rejections - 35 USC § 102

Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by Polvere R.I. et al. (GenBank Accession No. U88240, *Trichinella spiralis* hypothetical ORF 2.20 mRNA, partial cds, March 4, 1997), for the reasons of record.

Applicants' arguments filed February 1, 2007 have been fully considered but they are not persuasive.

Applicants point out that claim 4 is amended to recite complementary or reverse complement sequences to SEQ ID NO: 47 and its variants that are at least 30 nucleotides in length and confer vascular-preferred polynucleotide transcription, and Applicants maintain that because Polvere fails to disclose or suggest a complementary or reverse complement sequence to SEQ ID NO: 47 and its variants that is at least 30 nucleotides in length and confers vascular-

preferred polynucleotide transcription, Polvere fails to anticipate the invention as currently claimed. (reply page 6)

Applicants' arguments are unpersuasive. Claim 4 is not limited to complementary or reverse complement sequences to SEQ ID NO: 47 and its variants that are at least 30 nucleotides in length and confer vascular-preferred polynucleotide transcription. Claim 4 is also directed to "(a) sequences complementary to any of the sequences in claim 2". Polvere R.I. et al. teach a sequence comprising at least 20 contiguous bases (nucleotides 151 to 170) of SEQ ID NO:47, and is thus inherently complementary to nucleotides 151 to 170 of SEQ ID NO:47, SEQ ID NO:47 being a sequence of claim 2.

Remarks

No claim is allowed.

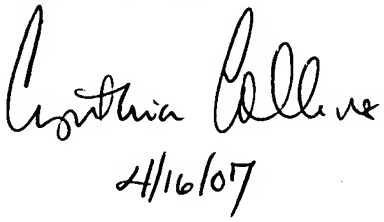
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cynthia Collins
Primary Examiner
Art Unit 1638



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